PHP40

IMPORTANCE OF CONSIDERING THE TREATMENT COMPLEMENTARITY OF MEDICINES IN DESIGNING PHARMACEUTICAL BENEFITS

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OBJECTIVES: The purpose of this analysis was to explore—from a theoretical welfare economics perspective—how whether drugs are substitutes or complements affects the design of optimal coinsurance. **METHODS:** A theoretical economics model of a duopoly market for two medicines was constructed. In the model, there are consumers who first purchase insurance and then consume drugs if they become sick. Drug producers set the price of the drugs in the model. The results from the model are then used to inform how benefits should be designed differently whether drugs are complements or substitutes. Specific real-world examples are interpreted in light of these predictions, and special attention is given to the implications for value-based insurance design. **RESULTS:** The results from the model show that drugs that are complements should have a lower coinsurance than drugs that are substitutes. The model also suggests that when drugs are substitutes, consumers choose levels of coinsurance that are too low (i.e. consumer is insured too much). This may or may not be the case for complements. From society's perspective (including drug makers' profits), consumers choose levels of coinsurance that are too high (consumer is insured too little) when drugs are complements. This may or may not be the case for substitutes. **CONCLUSIONS:** The results from the model can be used to inform the design of pharmaceutical benefits to make the consumer as well off as possible. When drugs are complements, a lower burden of payment should be implemented for the consumer. Examples of this would be HIV/AIDS drugs, malaria drugs or bone loss prevention (Calcium/Vitamin D). When drugs are substitutes, a higher burden of payment should be implemented. Examples would include statins, for example, when one treatment is chosen from many options. Value-based insurance design needs to consider this complementarity in addition to the potential for under-use.

PHP41

USE OF ECONOMIC EVIDENCE IN PHARMACEUTICAL MARKETING AUTHORIZATION PROCEDURES, FIRST EXPERIENCE FROM IRAN

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OBJECTIVES: Economic evidence in terms of different types of pharmacoeconomic data serves a crucial role in informing decisions on selecting pharmaceuticals, both for national drug lists and insurance reimbursement lists. Iranian Drug Selection Committee as the responsible body for granting marketing authorization for pharmaceuticals has made some efforts, however fragmented, to consider economic evidence in its decisions. This paper aimed at evaluating the role of economic evidence in the Iranian Food and Drug Organization's current marketing authorization policy. **METHODS:** At first, we captured the past and current situation of utilizing pharmacoeconomic data for granting pharmaceutical marketing authorization by conducting a number of exploratory interviews and reviewing relevant official documents on rules and regulations. Thereafter, within an analytic framework, we evaluated the cost-effectiveness profile of pharmaceuticals which were granted marketing authorization within the period of obligatory economic evidence submission. **RESULTS:** Pharmacoeconomic evaluations and their potential role in assuring value for money was first introduced to Iranian pharmaceutical policy-makers in 2003 by World Health Organization. Only after 5 years did The Iranian Drug Selecting Committee begin to launch The Pharmacoeconomic Subcommittee in addition to developing certain forms for collecting pharmacoeconomic data and making pharmaceutical companies fill these forms out within their routine submission process for requesting marketing authorization. However, this regulation last only 6 months and was abolished in July 2008. Currently there is no room for submitting economic data in pharmaceutical dossiers. **CONCLUSIONS:** Iran pharmaceutical regulatory authority suffers from lack of a clearly defined policy on taking the advantage of the results of pharmacoeconomic evaluations either in granting marketing authorization or drug reimbursement decisions. Thus, the need for a clear policy in this regard is unequivocal.

HEALTH CARE USE & POLICY STUDIES – Health Care Costs & Management

PHP42

THE ANNUAL HEALTH CARE EXPENDITURES PER CAPITA IN BRAZIL: A COMPARISON BETWEEN THE PUBLIC AND THE PRIVATE HEALTH CARE SYSTEMS

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OBJECTIVES: In Brazil a hybrid health care system that comprises a public and a private systems is in place. The objective of this exploratory analysis is to better understand the distribution of resources in terms of annual health care expenditures per capita in Brazil in both systems. METHODS: A review of public databases was conducted to raise data on both financial expenditures and the population assigned in each system. Sources were: Instituto Brasileiro de Geografia e Estatística—IBGE (Brazilian Institute for Statistics), Ministério da Saúde (Brazilian Ministry of Health), Agência Nacional de Saúde Suplementar—ANS (Brazilian agency which regulates the private health care sector) and available studies in Portuguese. RESULTS: The total annual health care expenditure (added value) in Brazil is R$ 137.9 billion and it represented 8.4% over the GDP in 2007 (IBGE, 2009). Eighty billion Reais were spent by the private health care system (58.3%), whereas R$ 57.5 billion (41.7%) derived from the public sector. On the public side, 50.6% of the expenditures are from the federal government, 24.5% from the states governments and the remaining 24.9% are funded by the municipalities (Ugá, 2005). Also, 192 million people live in Brazil, 79% of the population depends on the public health care system and 21% rely on the private health care system (IBGE, 2009 and ANS, 2009). As a result, a significant difference can be observed in the annual health care expenditure per capita in the private sector when compared to the one found in the public sector, R$ 2,015 vs. R$ 383, respectively (US$ 1 = R$ 1,711 Dec 10, 2009). CONCLUSIONS: The annual health care expenditure per capita in Brazil in the private sector is 5.3 fold the one found in the public sector. Further research is recommended to comprehend whether such a difference might impact on the clinical outcomes of each system.

PHP43

PROCEDURES WITH THE MOST RAPIDLY INCREASING HOSPITAL COSTS, 2004–2007

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OBJECTIVES: In 2007, about 70% of the nearly 40 million hospital stays involved some type of procedure, and about 30% of all stays involved an operating room procedure. Some of these procedures have been associated with much more rapidly increasing hospital costs than others. Using a nationally representative sample, we examined the inpatient hospital stays for procedures with the most rapidly increasing hospital costs during this time period. **METHODS:** This study presents data from the Healthcare Cost and Utilization Project Nationwide Inpatient Sample and identifies ten procedures generating the most rapidly increasing hospital costs between 2004 and 2007. Specifically, it compares estimates of the portion of the cost increase resulting from greater use of procedures versus a rise in the mean cost per stay. **RESULTS:** Aggregate costs for stays in which a procedure was performed grew by 7.2% between 2004 and 2007, totaling $296 billion in 2007. About two-thirds of this growth in aggregate costs was due to an increase in the number of hospitalizations (4.4%), and one-third was due to a rise in the mean cost per stay (2.6%). Growth in volume drove the growth of aggregate costs among stays for bone marrow transplant and open prostatectomy—procedures with the most rapidly increasing hospital costs during this period—as well as stays for incision and drainage of skin, knee arthroplasty, lobectomy or pneumonectomy, and aortic resection. In contrast, growth in mean cost per stay—that is, greater intensity of the use of services—contributed notably to the aggregate cost increases for mastectomy, cancer chemotherapy, nephrotomy and nephrostomy, and spinal fusion. **CONCLUSIONS:** Identifying the procedures that generate the most rapid increases in hospital costs and evaluating the drivers of these increases may contribute to a more informed discussion of overall health care cost increases.

PHP44

ANNUAL HEALTH INSURANCE COST OF SPA SERVICES IN HUNGARY

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OBJECTIVES: The aim of our study is to analyze the annual health insurance reimbursement cost of spa services and its distribution according to the type of services in Hungary. **METHODS:** The data is derived from Hungarian National Health Insurance Fund Administration (OEP), the only health care financing agency in Hungary. We analyzed the annual treatment of 2007 and its health insurance cost. We identified the following spa services with health insurance reimbursement in Hungary: spa pool of medical water, tub-bath of medical water, mud pack, medicinal weight-bath, effervescent-bath, medical health massage, sub-aquean spray massage, sub-aquean health care gymnastics for groups, complex balneotherapeutical service, health swim therapy for groups under 18. We calculate the annual health insurance reimbursement of different kind of spa services and its distribution. **RESULTS:** 8,16 million treatments of medical spa were done in Hungary at 2007 and OEP spent 4,434 billion HUF (Hungarian Forint) for reimbursement of these interventions. This sum of money is equal to 0,617 % of medicinal-prevention cost (718,717 billion HUF). The annual health insurance reimbursement of the single spa services and its distributions was the follows: spa pool of medical water (1144 million HUF, 25,81%), tub-bath of medical water (5,4 million HUF, 0,12%), mud pack (369,6 million HUF, 8,34%), medicinal weight-bath (96,4 million HUF, 2,17%), effervescent-bath (58,1 million HUF, 1,31%), medical health massage (1291 million HUF, 29,11%), sub-aquean spray massage (471,3 million HUF, 10,63%), sub-aquean health care gymnastics for groups (321,9 million HUF, 7,26%), complex balneotherapeutical service (404,9 million HUF, 9,13%), health swim therapy for groups under 18 (271,6 million HUF, 6,13%). **CONCLUSIONS:** The cost of spa services is 0,617 % of medicinal-prevention cost in Hungary. The greatest items are medical health massage and spa pool of medical water.